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EXAMINER
MAIS, MARK A

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		10/084,559	PANG ET AL.
		Examiner	Art Unit	
		Mark A. Mais	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 February 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____ .

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ .

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Priority

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Specification

2. Claim 9 is objected to because of the following informalities: it recites "claim 7m." Examiner has interpreted this portion of the claim to mean "claim 7,". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-7, 9-16, and 18-20 are rejected under 35 U.S.C. 102(e) as being

anticipated by Ramamurthy et al. (USP 6,304,551).

5. With regard to claim 1, Ramamurthy et al. discloses a system for smoothing jitter

experienced by data packets in transmission from a transmitter to a receiver , comprising:

a delay estimator **[device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector**

115, col. 21, lines 32-43] adapted to estimate an adaptive packet delay histogram

[statistically mapping the data traffic stream to usage parameter control (UPS)

values, col. 2, lines 66-67; characterizing the stream statistically over a time interval,

col. 5, lines 41-42], having a mean, representative of the delays experienced by data

packets in transmission from a transmitter to a receiver **[a mean delay rate of the cell**

stream, col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9;

see also **Figs. 6-7, mean delays are plotted, col. 3, lines 50-55]**,

a playout delay evaluator in communication with the delay estimator **[interpreted**

by the examiner as the portion of the device which performs the dynamic

renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125,

col. 21, lines 24-31] and adapted to calculate a playout time **[the variance of the delay**

(delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model

affirmatively states it shall stay away from the mean by utilizing the multiple

calculated delay variances, (col. 12, lines 19-20, *emphasis added*)], wherein the

calculation of said playout time utilizes said mean and a first variance derived from a

portion of said packet delay histogram **[the playout time (Delay) is a function of the**

bucket size B[Cs, u, D], and, thus, the examiner has interpreted the calculation of

the bucket size as a calculation of the playout time; *see also* **the mean rates are**

mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-

50]; and

a playout buffer monitor adapted to buffer the data packets for the delay amount

determined by the playout delay evaluator and then output the delayed data packets **[a**

playout buffer monitor is inherently contained in the UPC shaper 125 in order to

buffer the packets in accordance with it's calculations and thus, in order to "shape"

the data stream, col. 21, lines 24-31].

6. With regard to claim 2, Ramamurthy et al. that the delay is calculated by subtracting

the first variance from a mean delay experienced by data packets in transmission from a

transmitter to a receiver **[the variance of the delay (Fig. 6, col. 11, lines 30-45) is**

calculated by subtracting the first and second moment delays (col. 11, line 60 to col.

12, line 33). Thus, the delay is *necessarily* calculated by subtracting the first variance

from the mean delay].

7. With regard to claim 3, Ramamurthy et al. discloses that the variance is calculated

based upon a portion of the histogram that is less than the mean delay **[the statistical**

calculation of the variance is bounded by the mean delay and, therefore, is less than

the mean delay, col. 12, lines 1-20].

8. With regard to claim 4, Ramamurthy et al. discloses that the first variance is

calculated using a second variance calculated from a portion of the histogram that differs

from the portion used to derive the first variance [**this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67**].

9. With regard to claim 5, Ramamurthy et al. discloses 5. The system of claim 1, further comprising a delay smoother to control changes in playout time [**this is interpreted as the combination of the UPC selector 115 and the signaling module 150 which detect changes in the UPC parameters and performs network renegotiation requests, col. 21, lines 44-57; thus, the changes in playout time are managed in part, through the acceptance/rejection, by the network 14 (Fig. 6), of the transmission (playout time)**].

10. With regard to claim 6, Ramamurthy et al. discloses 6. The system of claim 1, wherein the playout time is further controlled by expanding increases in playout time and limiting decreases in playout time [**this is inherently what a jitter smoothing estimation process performs: in order to smooth jitter, the estimation (statistically mapping UPC values) system must *necessarily* create more increased-playout-times while limiting decreased-playout-times when using a statistical process which affirmatively includes means and variances for packet delay modeling and calculating buffer sizes**].

11. With regard to claim 7, Ramamurthy et al. discloses 7. A method for substantially

reducing jitter experienced by data packets in transmission from a transmitter to a

receiver, comprising:

estimating a mean delay using a packet delay histogram [**statistically mapping

the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67;

characterizing the stream statistically over a time interval, col. 5, lines 41-42**]

representative of the delays experienced by data packets in transmission from a

transmitter to a receiver [**a mean delay rate of the cell stream, col. 6, lines 35-36;

which is estimated over a time window, col. 9, lines 7-9; *see also* Figs. 6-7, mean

delays are plotted, col. 3, lines 50-55**],

deriving a first variance from a first portion of said histogram [**the playout time

(Delay) is a function of the bucket size B[Cs, u, D], and, thus, the examiner has

interpreted the calculation of the bucket size—which uses the variance—as a

calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which

discloses a constant expected delay curve, col. 11, lines 30-50**];

deriving a second variance from a second portion of said histogram, wherein said

first portion and second portion are not identical [**this is interpreted by the examiner as

the iterative nature of the playout delays over a finite timeframe such that a first

sampled iteration produces the claimed second variance, and a subsequent iteration

produces the claimed first variance; new estimates of the mean rate (and, by

definition, variances), are taken over a weighted average, col. 16, lines 64-67**];

setting a delay equal to a function of the mean delay and the first variance [**the

variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this**

statistical model affirmatively states it shall stay away from the mean by utilizing

the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)];

setting a buffer size equal to a function of the first and second variance and buffering data

packets in accordance with said buffer size and delay [this is interpreted by the

examiner as the iterative nature of the playout delays over a finite timeframe such

that a first sampled iteration produces the claimed second variance, and a

subsequent iteration produces the claimed first variance; new estimates of the mean

rate (and, by definition, variances), are taken over a weighted average, col. 16, lines

64-67; buffers are inherently used for the buckets in order to buffer the packets in

accordance with it's calculations and thus, in order to "shape" the data stream, col.

21, lines 24-31].

12. With regard to claim 8, Ramamurthy et al. discloses 2. The system of claim 1,

wherein the delay is calculated by subtracting the first variance from a mean delay

experienced by data packets in transmission from a transmitter to a receiver [the

variance of the delay (Fig. 6, col. 11, lines 30-45) is calculated by subtracting the first

and second moment delays (col. 11, line 60 to col. 12, line 33). Thus, the delay is

necessarily calculated by subtracting the first variance from the mean delay].

13. With regard to claim 9, Ramamurthy et al. discloses 9. The method of claim 7,

wherein the buffer size is equal to the sum of the first and second variances [it is

inherent that, using a weighted average over time of the variances of the bucket size,

that the size includes at least the weighted sum of the measured variances, col. 16, lines 64-67].

14. With regard to claim 10, Ramamurthy et al. discloses 10. A method for substantially reducing jitter experienced by data packets in transmission from a transmitter to a receiver, comprising:

estimating a mean delay using a packet delay histogram [statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42] representative of the delays experienced by data packets in transmission from a transmitter to a receiver [a mean delay rate of the cell stream, col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; *see also* Figs. 6-7, mean delays are plotted, col. 3, lines 50-55];

deriving a first variance from a first portion of said histogram [the variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model affirmatively states it shall stay away from the mean by utilizing the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)];

deriving a second variance as a function of the first variance [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67; buffers are inherently used for the buckets in order to buffer the packets in

accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31];

setting a delay equal to a function of the mean delay and the first variance [the playout time (Delay) is a function of the bucket size B[Cs, u, D], and, thus, the examiner has interpreted the calculation of the bucket size—which uses the variance—as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50];

setting a buffer size equal to a function of the first and second variance; and buffering data packets in accordance with said buffer size and minimum delay [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67; buffers are inherently used for the buckets in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31].

15. With regard to claim 11, Ramamurthy et al. discloses 11. The method of claim 10, wherein the second variance is equal to the first variance multiplied by a constant [This is interpreted by the examiner as the situation where the first and second variances, for the measured time period, are equal, and the constant is one (1)].

16. With regard to claim 12, Ramamurthy et al. discloses 12. The method of claim 10,

wherein the second variance is equal to a constant minus the first variance [**This is**

interpreted by the examiner as the situation where the first and second variances, because

they are the square of a standard deviation, are equal when the value of the constant is zero

(0)].

17. With regard to claim 13, Ramamurthy et al. discloses 13. A system for smoothing

jitter experienced by data packets in transmission from a transmitter to a receiver,

comprising:

a delay estimator [**device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector**

115, col. 21, lines 32-43] for estimating a packet delay histogram [**statistically mapping**

the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67;

characterizing the stream statistically over a time interval, col. 5, lines 41-42]

representative of the delays experienced by data packets in transmission from a

transmitter to a receiver [**a mean delay rate of the cell stream, col. 6, lines 35-36;**

which is estimated over a time window, col. 9, lines 7-9; *see also* **Figs. 6-7, mean**

delays are plotted, col. 3, lines 50-55]; and

a playout buffer monitor [**a playout buffer monitor is inherently contained in**

the UPC shaper 125 in order to buffer the packets in accordance with it's

calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31]

having a buffer size equal to the sum of a first variance and a second variance [**it is**

inherent that, using a weighted average over time of the variances of the bucket size,

that the size includes at least the weighted sum of the measured variances, col. 16,

lines 64-67], wherein the first variance is calculated from a first portion of said packet

delay histogram and the second variance is calculated from a second portion of said

packet delay histogram **[this is interpreted by the examiner as the iterative nature of**

the playout delays over a finite timeframe such that a first sampled iteration

produces the claimed second variance, and a subsequent iteration produces the

claimed first variance; new estimates of the mean rate (and, by definition,

variances), are taken over a weighted average, col. 16, lines 64-67], and

wherein said playout buffer monitor buffers the data packets for a minimum delay

amount determined by the first variance **[a playout buffer monitor is inherently**

contained in the UPC shaper 125 in order to buffer the packets in accordance with

it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31;

the playout time (Delay) is a function of the bucket size B[Cs, u, D], and, thus, the

examiner has interpreted the calculation of the bucket size—which uses the

variance—as a calculation of the playout time; *see also* the mean rates are mapped

in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50]

18. With regard to claim 14, Ramamurthy et al. discloses 14. A system for managing

jitter experienced by data packets in transmission from a transmitter to a receiver,

comprising:

a delay estimator **[device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector**

115, col. 21, lines 32-43] for estimating a packet delay histogram **[statistically mapping**

the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67;

characterizing the stream statistically over a time interval, col. 5, lines 41-42] and a

mean delay experienced by data packets in transmission from a transmitter to a receiver; and

a playout delay evaluator in communication with the delay estimator **[interpreted by the examiner as the portion of the device which performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125, col. 21, lines 24-31]** and adapted to determine a plurality of variances based upon a plurality of portions of the packet delay histogram **[the variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model affirmatively states it shall stay away from the mean by utilizing the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)]**, wherein the calculation of a first variance is used to determine a delay and the calculation of a second variance is used to determine a buffer size **[the playout time (Delay) is a function of the bucket size B[Cs, u, D], and, thus, the examiner has interpreted the calculation of the bucket size—which uses the variance—as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50]**; and

a playout buffer monitor having the calculated buffer size wherein the playout buffer monitor buffers the data packets selected by the playout delay evaluator for the delay and then outputs the delayed data packets **[a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31]**.

19. With regard to claim 15, Ramamurthy et al. discloses 15. A media processing system

for transmitting, receiving, and processing media across networks wherein the media

processing system has substantially reduced jitter experienced by data packets in

transmission from a transmitter to a receiver, comprising:

a plurality of media processors wherein the media processor is capable of

processing media [**interpreted by the examiner as the portion of the device which**

performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig.

13, UPC Shaper 125, col. 21, lines 24-31];

a plurality of packet processors in communication with at least one of said media

processors wherein the packet processor is capable of packetizing processed media

[**device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines 32-**

43];

a host processor in communication with at least one said packet or media

processors [**Fig. 13, Change Detector 120**]; and

a playout buffer, implemented in either the media processor or packet processor

[**a playout buffer monitor is inherently contained in the UPC shaper 125 in order to**

buffer the packets in accordance with it's calculations and thus, in order to "shape"

the data stream, col. 21, lines 24-31], having a buffer size equal to a function of a first

variance and a second variance [**this is interpreted by the examiner as the iterative**

nature of the playout delays over a finite timeframe such that a first sampled

iteration produces the *claimed* second variance, and a subsequent iteration produces

the *claimed* first variance; new estimates of the mean rate (and, by definition,

variances), are taken over a weighted average, col. 16, lines 64-67] and using a delay

equal to a function of a mean delay and the first variance wherein said mean delay **[the**

playout time (Delay) is a function of the bucket size B[Cs, u, D], and, thus, the

examiner has interpreted the calculation of the bucket size as a calculation of the

playout time; *see also* **the mean rates are mapped in Fig. 6, which discloses a**

constant expected delay curve, col. 11, lines 30-50], first variance and said second

variance are determined from a packet delay histogram representative of delays

experienced by data packets in transmission from a transmitter to a receiver **[statistically**

mapping the data traffic stream to usage parameter control (UPS) values, col. 2,

lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines

41-42].

20. With regard to claim 16, Ramamurthy et al. discloses 16. The system of claim 15,

wherein the second variance is equal to a function of the first variance and a constant

[This is interpreted by the examiner as the situation where the first and second

variances, for the measured time period, are equal, and the constant is one (1)].

21. With regard to claim 17, Ramamurthy et al. discloses 2. The system of claim 1,

wherein the delay is calculated by subtracting the first variance from a mean delay

experienced by data packets in transmission from a transmitter to a receiver **[the**

variance of the delay (Fig. 6, col. 11, lines 30-45) is calculated by subtracting the first

and second moment delays (col. 11, line 60 to col. 12, line 33). Thus, the delay is

necessarily **calculated by subtracting the first variance from the mean delay]**.

22. With regard to claim 18, Ramamurthy et al. discloses 18. The system of claim 15, wherein the first variance is derived from a portion of the histogram that is less than the mean delay **[the statistical calculation of the variance is bounded by the mean delay and, therefore, is less than the mean delay, col. 12, lines 1-20]**..

23. With regard to claim 19, Ramamurthy et al. discloses 19. The system of claim 15, wherein the second variance is derived from a portion of the histogram that differs from the portion used to derive the first variance **[this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67]**.

24. With regard to claim 20, Ramamurthy et al. discloses 20. A media processing system for transmitting, receiving, and processing media across networks, comprising:

a plurality of media processors, each of said media processors having a plurality of processing layers wherein each processing layer has at least one processing unit, at least one program memory, and at least one data memory, each of said processing unit, program memory, and data memory being in communication with one another **[interpreted by the examiner as the portion of the device which performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125, col. 21, lines 24-31; furthermore, it is inherent that a processor has**

program memory, data memory (RAM, ROM, hard drive, etc.) in communication

with the processor];

a plurality of packet processors in communication with at least one of said media

processors wherein each of said packet processors is capable of packetizing processed

media [device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines

32-43];

a host processor in communication with at least one of said plurality of packet

processors or at least one of said plurality of media processors [Fig. 13, Change

Detector 120]; and

a playout buffer, implemented in either the at least one of said plurality of packet

processors or at least one of said plurality of media processors [a playout buffer

monitor is inherently contained in the UPC shaper 125 in order to buffer the

packets in accordance with it's calculations and thus, in order to "shape" the data

stream, col. 21, lines 24-31], having a buffer size equal to a function of a first variance

and a second variance [this is interpreted by the examiner as the iterative nature of

the playout delays over a finite timeframe such that a first sampled iteration

produces the *claimed* second variance, and a subsequent iteration produces the

claimed first variance; new estimates of the mean rate (and, by definition,

variances), are taken over a weighted average, col. 16, lines 64-67] wherein said first

variance and said second variance are determined from a packet delay histogram

[statistically mapping the data traffic stream to usage parameter control (UPS)

values, col. 2, lines 66-67; characterizing the stream statistically over a time interval,

col. 5, lines 41-42] representative of delays experienced by data packets in transmission

from a transmitter to a receiver **[a mean delay rate of the cell stream, col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9;** *see also* **Figs. 6-7, mean delays are plotted, col. 3, lines 50-55]**.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

26. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramamurthy et al. as applied to claim 20 above, further in view of Baker et al. (USP 6,519,259).

27. With regard to claim 21, Ramamurthy et al. discloses the use of real-time estimation of values in an ATM network **[Abstract]**. Moreover, Ramamurthy et al. discloses using this estimation to prevent jitter while corresponding to real-time bandwidth requirements. Ramamurthy et al. achieves this by using a double-bucket method of delaying cells to smooth jitter **[Abstract]**. Ramamurthy et al. does not specifically disclose using echo cancellation and a scheduler, which performs encoding/decoding functions. These functions are well-known to those of ordinary skill in the art. Furthermore, Baker et al. discloses an apparatus for improving packet communications in order to satisfy bandwidth requirements **[Abstract]**. It does so by use of a packet scheduler 62, which

encodes/decodes ATM packets and performs echo cancellation for those packet delays

which exceed 25 ms **[Fig. 2, col. 6, line 50 to col. 7, line 23]**. Thus, it would have been

obvious to one of ordinary skill in the art at the time of the invention to provide task

scheduling, packet encoding/decoding, as well as echo cancellation to prevent jitter in a

packet stream through the use of packet delay/buffering methods.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

(a) Shaffer et al. (USP 6,707,821), Time-sensitive-packet jitter and latency

minimization on a shared data link.

(b) Galand et al. (USP End-to-end delay estimation in high speed communication

networks.

(c) Benesty (USP 7,051,246), Method for estimating clock skew within a

communications network.

29. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mark A. Mais whose telephone number is 572-272-3138.

The examiner can normally be reached on M-Th 5am-4pm.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

31. Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published
applications may be obtained from either Private PAIR or Public PAIR. Status
information for unpublished applications is available through Private PAIR only. For
more information about the PAIR system, see http://pair-direct.uspto.gov. Should you
have questions on access to the Private PAIR system, contact the Electronic Business
Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO
Customer Service Representative or access to the automated information system, call
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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